

Art Unit: 3700

CPTO/BW

12/09/04

CANCEL CLAIMS 1-15

A DD NEW CLAIMS 16-22

1. A method for performing a coronary artery bypass procedure for supplementing a flow of blood to a coronary artery, said method comprising: forming a blood flow path from a heart chamber directly to said coronary artery and maintaining said blood flow path open during both systole and diastole.
2. A method according to claim 1 comprising selecting a blood conduit having a first end and a second end and placing said first end in blood flow communication with said chamber and placing said second end in blood flow communication with said coronary artery.
3. A method according to claim 2 wherein said conduit is selected with a cross-sectional area sufficient for blood to flow through said conduit at a volumetric flow rate to effectively reduce signs and symptoms of reduced coronary blood flow.
4. A method according to claim 2 comprising:
 - a. inserting said first end into said chamber through a wall of said chamber and retaining said first end in said wall and in blood flow communication with said blood within said chamber; and
 - b. inserting said second end into said coronary artery and retaining said second end in said

Art Unit: 3700

5. A method according to claim 1 wherein said coronary artery is at least partially obstructed at a predetermined site, said method further comprising forming said path directly to said coronary artery downstream of said site.

6. A method according to claim 1 further comprising reducing but not blocking blood flow through said path during diastole.

7. A method according to claim 1 comprising directing blood flow through said path to reduce direct impingement of said blood flow upon a wall of the coronary artery.

8. A method according to claim 1 comprising forming said path through said wall and through a lower wall of said artery.

9. An apparatus for use in a coronary artery bypass procedure for supplementing a flow of blood to a coronary artery, said apparatus comprising:

- a. a blood flow conduit having a first end adapted to be inserted into and retained within a wall of a heart chamber containing oxygenated blood with said first end in blood flow communication with blood contained within said chamber;
- b. said conduit having a second end adapted to be inserted into and retained within said coronary

Art Unit: 3700

15

artery with said second end in blood flow communication with a lumen of said coronary artery; and

- c. said conduit adapted to define an open blood flow path during both diastole and systole.

10. An apparatus according to claim 9 wherein said conduit has a cross-sectional area sufficient to pass blood at a volumetric flow rate to supply blood to cardiac musculature served by said coronary artery in an amount to reduce signs and symptoms of reduced coronary blood flow.

11. An apparatus according to claim 9 wherein said conduit has a geometry selected to bias forward flow of blood from said first end toward said second end while not blocking blood flow from a direction from said second end toward said first end.

12. An apparatus according to claim 9 wherein said second end is sized to be inserted into and retained within said coronary artery on a downstream side of a predetermined obstruction site.

13. An apparatus according to claim 9 comprising a deflection surface for blocking blood flow through said conduit from impinging directly upon said coronary artery.

14. An apparatus according to claim 9 wherein said conduit is sized to extend through said heart chamber wall and a lower wall of said coronary artery.

Art Unit: 3700

15. An apparatus according to claim 9 wherein said conduit is biased for a net volumetric blood flow from said first end toward said second end.